

ABSTRACT OF INVENTION

5 Improved method of and apparatus for aggregating data elements in multidimensional
databases (MDDB). In one aspect of the present invention, the apparatus is realized in the
form of a high-performance stand-alone (i.e. external) aggregation server which can be
plugged-into conventional OLAP systems to achieve significant improvements in system
performance. In accordance with the principles of the present invention, the stand-alone
aggregation server contains a scalable MDDB and a high-performance aggregation engine that
10 are integrated into the modular architecture of the aggregation server. The stand-alone
aggregation server of the present invention can uniformly distribute data elements among a
plurality of processors, for balanced loading and processing, and therefore is highly scalable.
The stand-alone aggregation server of the present invention can be used to realize (i) an
improved MDDB for supporting on-line analytical processing (OLAP) operations, (ii) an
15 improved Internet URL Directory for supporting on-line information searching operations by
Web-enabled client machines, as well as (iii) diverse types of MDDB-based systems for
supporting real-time control of processes in response to complex states of information
reflected in the MDDB. In another aspect of the present invention, the apparatus is
integrated within a database management system (DBMS). The improved DBMS can be
20 used to realize achieving a significant increase in system performance (e.g. decreased
access/search time), user flexibility and ease of use. The improved DBMS system of the
present invention can be used to realize an improved Data Warehouse for supporting on-line
analytical processing (OLAP) operations or to realize an improved informational database
system, operational database system, or the like.